

# SHRP2 C10: Metropolitan Transportation Commission

*Quarterly Report for October 2015 – December 2015 (prepared 18-Dec-2015)*

## SUMMARY

The Tri-Agency group implementing Fast-Trips has been making significant technical progress on: data standards, network development, demand evaluation, software development, and route choice methodology. A major milestone was reached this past quarter with the release of a working version of the Fast-Trips software, including a test network. Instructions and further details are contained in a recent [blog post](#) on our project website.

## IMPLEMENTATION

### Work accomplished for the period:

Task	Activities
Task 1 - Project Mgmt / Tech Oversight	<ul style="list-style-type: none"><li>• Developed proposed funding agreement amendments to address adjustments to initial work assignments</li><li>• Continued to meet on a bi-weekly basis on management-level updates and issues</li></ul>
Task 2 - Network Supply	<ul style="list-style-type: none"><li>• Revised network design specification</li><li>• Developed majority of code needed to build networks for both PSRC and SFCTA</li><li>• Estimated initial dwell time models</li></ul>
Task 3 - Transit Demand	<ul style="list-style-type: none"><li>• Revised demand data specification</li><li>• Explored and analyzed various sources of observed transit demand</li></ul>
Task 4 - Transit Rider Behavior	<ul style="list-style-type: none"><li>• Explored innovative methods for estimation &amp; path building</li></ul>
Task 5 - Transit System Performance	<ul style="list-style-type: none"><li>• Provided needed transit data for dwell time estimation (Task 2) and screenline evaluation ( Task 3 )</li></ul>
Task 6 - Software Implementation	<ul style="list-style-type: none"><li>• Implemented code to support bi-directional transit routes and different park-and-ride configurations</li><li>• Updated the code and parameter specification format be more generalizable and allow multi-class assignment</li><li>• Prepared research on integration issues between Fast-Trips and our regional travel demand models</li><li>• Released first version of software for public testing and feedback with test network and instructions for use</li></ul>

Task 7 - Test Case Development	<ul style="list-style-type: none"> <li>Completed development of test network for inclusion in development version of software</li> </ul>
Task 8 - Agency Implementation & Testing	
Task 9 - Communications and Outreach	<ul style="list-style-type: none"> <li>Added three new posts to website blog</li> <li>Developed &amp; submitted multiple abstracts for ITM</li> <li>Participated in C10 coordination call</li> </ul>

### Schedule status:

We remain about two months behind our planned schedule. Several team members had unexpected absences in the past several months, which prevented us from making up any schedule lag since the beginning of the quarter.

### Expenditures and budget status:

Resource	FHWA or In-kind	Encumbered / Committed	Invoiced to Date / Expended
SFCTA	FHWA	\$310,000	\$27,000
SFCTA	In-kind	\$80,000	\$4,600
PSRC	FHWA	\$100,000	\$10,000
PSRC	In-kind	\$77,000	\$10,000
MTC	FHWA	\$83,000	\$14,200
MTC	In-kind	\$98,000	\$39,200
Univ. of Texas, Austin	FHWA	\$38,500	\$0,000
Mark Hickman (Univ. of Queensland)	In-kind	\$10,500	\$0
Hood Consulting	FHWA	\$60,000	\$0
UrbanLabs, LLC	FHWA	\$100,000	\$0
To be determined	FHWA	\$8,500	\$0
<i>Total</i>	<i>FHWA</i>	<i>\$700,000</i>	<i>\$51,200</i>
<i>Total</i>	<i>In-kind</i>	<i>\$265,500</i>	<i>\$53,800</i>
<i>Total</i>	<i>All</i>	<i>\$965,500</i>	<i>\$105,000</i>

### **Summary of the quarter ahead:**

In the quarter ahead, we will continue to advance multiple technical tasks. For software development, the next steps are to implement equilibrium calculations and crowding followed by implementation of the choice set generation and skimming procedures developed in the Travel Behavior Task (Task 4). The networks team is expected to complete the Python code to create the networks from both EMME/SoundCast and SF-CHAMP/Network Wrangler, and will use it to create regional networks in both the Bay Area and Puget Sound. In addition, they will be wrapping up their dwell time estimation and exploration of reliability metrics. The demand team should be able to complete the demand adjustments and validation that are needed for route choice estimation if they are deemed helpful from a review of the observed data that we have on hand. The route choice team is expected to work through the last of the issues holding up estimation, allowing for that task to take big steps forward, and we should be able to complete the remaining components of the test network task as well.

### **Risks/Challenges/Obstacles:**

The main risk at this point is schedule adherence. Progress is continuing at a reasonable level at this time, but due to earlier delays, we remain behind our original plan. As we approach the halfway mark of the project, we need to maintain the pace on all of the active development tasks currently running in parallel, in order to allow sufficient time to conduct implementation and testing next year.

### **MEASURES**

Our performance measures tracking tool shows current values for all metrics, including the developments in the past quarter specifically noted below.

### **Implementation:**

Several of our team members participated in the quarterly C10 coordination call. We shared information about our latest accomplishments including the revised data standards and the availability of a test version of our tool.

### **Partnership:**

A total of 18 people are now using our collaboration tools: the Asana project management system, our code repositories on Github, and cloud storage on Google Drive and Box.

**Dissemination:**

Regular website updates continue, with three new blog posts this quarter. There were no formal presentations in the past quarter.

CATEGORY	DEFINITIONS			TOTAL	Jan-Mar 2015	Apr-Jun 2015	Jul-Sep 2015	Oct-Dec 2015	Jan-Mar 2016	Apr-Jun 2016	Jul-Sep 2016	Oct-Dec 2016
Tool Implementation and Deployment	OUTPUT MEASURE	METRIC 1	TARGET 1									
	Agency and project partners participate in all required calls/meetings.	Number of calls/meetings attended	Minimum: Participation in group kick-off, project kick-off, and 2 additional scheduled calls per year	5	2	1	1	1				
	Project deliverables are submitted to Volpe/FHWA on time and on schedule.	Quarterly progress reports submitted by specified due date	Quarterly progress reports submitted by specified due date.	4	1	1	1	1				
		Final deliverables submitted by due date	Final deliverables submitted by due date.	3	1	0	2	0				
	Agency identifies desirable refinements (i.e., suggestions for future research) for tools created from the C10 project.	Documentation of desirable refinements within existing project deliverables	Information about desirable refinements included within final report.	0	n/a	n/a	n/a	n/a	n/a	n/a	n/a	
	Agency supplies lessons learned from participating as a C10 grantee.	Documentation of lessons learned	Information about grantee experience included within final report.	0	n/a	n/a	n/a	n/a	n/a	n/a	n/a	
	OUTCOME MEASURE	METRIC 2	TARGET 2									
	Travel demand model contains new sensitivities suitable for policy analysis.	Number of progress reports that document new variables / modeling options available	At least one	0	0	0	0	0				
	Methodologies, work processes, key decisions, problems encountered, & lessons learned are sufficiently well documented that peers can follow the work and repeat the results.	Number of issues and lessons documented in on-line tools	At least one	0	0	0	0	0				
	OUTPUT MEASURE	METRIC 1	TARGET 1									
Capacity Building and Partnerships	Agency practitioners (staff, contractors, consultants) and assigned partner staff are engaged with project and familiar with results.	Number of users of online collaboration tools	Staff from each partner agency makes contributions to archive of project knowledge.	18	15	17	18	18				
	OUTCOME MEASURE	METRIC 2	TARGET 2									
	Agency and partner staff acquire additional skills and expertise.	Number of progress reports that document new skills / expertise acquired	At least one	0	0	0	0	0				
	Improved work processes, data, analysis tools, and decision information are in use by our agencies.	Number of progress reports that document uptake of new processes, data, tools, methods	At least one	0	0	0	0	0				
Technology Transfer / Research Dissemination	OUTPUT MEASURE	METRIC 1	TARGET 1									
	Project data and information is shared with the academic and practitioner communities.	Number of presentations delivered (conferences, technical meetings, TRB)	1 TRB paper or poster, or participation in a panel/workshop that recounts the information	1	0	1	0	0				
		Number of papers/memos/articles written about the project experience	1 Presentation prior to project closeout to FHWA or other interested communities	0	0	0	0	0				
	OUTCOME MEASURE	METRIC 2	TARGET 2									
	Peer agencies in the state/region express interest in or begin to deploy C10 tools.	Number of agencies that contact C10 team about the project and/or express plans to pursue implementation	At least one	1	0	1	0	0				